forming surface of the dots constituted by the small projecting portions or the small recess portions in said light conductor plate is set to be equal to or less than 0.3 μm.

25. (amended) A liquid crystal display apparatus as claimed in claim 1, wherein a calculated average surface roughness Ra of portions other than a dot forming surface of the dots constituted by the small projecting portions or the small recess portions in said light conductor plate is set to be equal to or less than 0.05 μm.

26. (amended) A liquid crystal display apparatus as claimed in claim 1, wherein a prism sheet having a relation of $90 < \theta p1 < 60$ degrees and $26 < \theta p2 < 55$ degrees is used in combination with said light conductor plate.

27. (amended) A liquid crystal display apparatus as claimed in claim 1, wherein a thickness of said light conductor plate is different in accordance with a distance from the light source.

Please cancel claims 28-31 without prejudice or disclaimer of the subject matter thereof.

REMARKS

The allowance of claims 28-31 is acknowledged. However, by the present amendment, claims 28-31 have been canceled without prejudice or disclaimer of the subject matter thereof, since such claims are the only claims present in a continuation of the present application filed under U.S. application Serial No. 10/020,975 on December 19, 2001. Applicants note that an Office Action has been issued in the continuing application, pointing out that identical claims are present in

the parent application which should be avoided by the cancellation of the present allowed claims herein. It is noted, however, that the same Examiner herein, who is the Examiner in charge of the continuation application has taken an inconsistent position with respect to the identical claims 28-31 in the two applications. That is, while the Examiner has allowed claims 28-31 in this application, the parent application, the Examiner has rejected the identical claims 28-31 in the continuation application over art and applicants do not understand the inconsistency in the position taken by the Examiner.

Also, by the present amendment, independent claims 1, 2 and 3 have been amended to incorporate features of dependent claims 5 and 14, while more clearly setting forth the features of independent claims 1-3, with claims 4, 5, 13 and 14 being canceled. Also, in light of the objection to claims 6-27 as being in improper multiple dependent form, claims 6-11 and 15-27 have been amended to depend from claim 1 with claim 12 depending from claim 6, such that each of these claims are now in single dependent form and should be considered at this time.

As to the rejection of claims 1-3 under 35 U.S.C. 102(b) as being clearly anticipated by Yokoyama et al (US 5,584,556) and the rejection of claims 4 and 5 under 35 U.S.C. 103(a) as being unpatentable over Yokoyama et al (US 5,584,556), such rejections are traversed insofar as they are applicable to the present claims, and reconsideration and withdrawal of the rejections are respectfully requested.

At the outset, as to the requirements to support a rejection under 35 U.S.C. 102, reference is made to the decision of In re Robertson, 49 USPQ 2d 1949 (Fed. Cir. 1999), wherein the court pointed out that anticipation under 35 U.S.C. §102 requires that each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. As noted by the court, if the prior art reference does not expressly set forth a particular element of the claim, that reference still may anticipate if the element is "inherent" in its disclosure.

To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." Moreover, the court pointed out that inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.

With regard to the requirements to support a rejection under 35 U.S.C. 103, reference is made to the decision of In re Fine, 5 USPQ 2d 1596 (Fed. Cir. 1988), wherein the court pointed out that the PTO has the burden under §103 to establish a prima facie case of obviousness and can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. As noted by the court, whether a particular combination might be "obvious to try" is not a legitimate test of patentability and obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. As further noted by the court, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

Furthermore, such requirements have been clarified in the recent decision of In re Lee, 61 USPQ 2d 1430 (Fed. Cir. 2002) wherein the court in reversing an obviousness rejection indicated that deficiencies of the cited references cannot be remedied with conclusions about what is "basic knowledge" or "common knowledge". The court pointed out:

> The Examiner's conclusory statements that "the demonstration mode is just a programmable feature which can be used in many different device[s] for providing automatic introduction by adding the proper programming software" and that "another motivation would be that the automatic demonstration mode is user

> friendly and it functions as a tutorial" do not adequately address the issue of motivation to combine. This factual question of motivation is immaterial to patentability, and could not be resolved on subjected belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher."... Thus, the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion. (emphasis added)

Turning first to the rejection of claims 1-3 under 35 U.S.C. 102(b) as being clearly anticipated by Yokoyama et al, as noted above, the features of dependent claim 5 in relation to the specified range values for the area of each of the dots, has been incorporated into independent claims 1-3, and since the Examiner has recognized that at least with respect to such features, Yokoyama et al is not applicable under 35 U.S.C. 102, it is apparent that by the present amendment, the rejection under 35 U.S.C. 102 has been overcome.

As pointed out above, each of claims 1-3, in addition to incorporating the feature therein of claim 5, also has been amended to incorporate the features of claim 14 therein, which specifies an angle of inclination of a cross section within a range of 7 to 43 degrees. Applicants submit that irrespective of the contentions by the Examiner, Yokoyama et al does not disclose or teach in the sense of 35 U.S.C. 103 the recited features of dependent claims 5 and 14 which have now been incorporated into each of independent claims 1-3.

As to the Examiner's comments concerning the applicability of Yokoyama et al with respect to the features of claim 5, the Examiner contends that "The range of area with which to form the small recesses or projections constituting the dots is a result effective variable. Determination of a result effective variable has been judicially deemed to be obvious to those of ordinary skill in the art." Applicants submit that this position by the Examiner is a recognition that Yokoyama et al does

not disclose or teach that each of the dots has an area within a range of 0.01 to 0.0001 square mm, as previously recited in claim 5, and now recited in each of claims 1-3, and additionally, applicants submit that there is no disclosure or teaching in Yokoyama et al that each of the dots has an angle of inclination of a cross section within a range of 7 to 43 degrees, as previously recited in claim 14, and now recited in each of independent claims 1-3. Applicants submit that the position set forth by the Examiner as to obviousness under 35 U.S.C. 103 is based upon the principle of "obvious to try" which is not the standard of 35 U.S.C. 103. See In re Fine, supra. Furthermore, the mere suggestion by the Examiner that the claimed features is a result effective variable which would be obvious is contrary to the decision of In re Lee, supra. Applicants submit that as described in the specification of this application, such features enable improved operation of a liquid crystal display apparatus, as defined, and such features are not disclosed or taught by Yokoyama et al in the sense of 35 U.S.C. 103. Moreover, applicants submit that the present invention utilizes the principle of reflection of incident light by the dots having the recited features to provide improved lighting and brightness for display apparatus, wherein Yokoyama et al utilizes a light scattering effect at the dots which do not have the recited features. Accordingly, applicants submit that claims 1-3 and the dependent claims thereof patentably distinguish over the cited art and should now be in condition for allowance.

With respect to the features of dependent claims 6-12 and 15-27, applicants submit that such claims recite further features which must be considered in light of the amendments of the claims to be in proper multiple dependent form, and that such features are also not disclosed or taught by Yokoyama et al in the sense of 35 U.S.C. 103. Thus, applicants submit that claims 6-12 and 15-27, when considered in conjunction with the features of claims 1-3, further patentably distinguish over Yokoyama et al and all claims should be considered allowable at this time.

In view of the above amendments and remarks, applicants submit that all claims present in this application patentably distinguish over the cited art and should now be in condition for allowance. Accordingly, issuance of an action of a favorable nature is courteously solicited.

To the extent necessary, applicant's petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 01-2135 (500.38128X00) and please credit any excess fees to such deposit account.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Please amend claims 1-3 as follows;

1. (amended) A liquid crystal display apparatus comprising:

a light conductor plate; ~~and~~

a light source arranged on a side surface of said light conductor plate~~, thereby lightening~~ so as to light a liquid crystal cell from a side of a back surface~~, wherein the~~; and

said light conductor plate ~~has~~ having an incident surface for a light from the light source, a light emitting surface for emitting the input light to the liquid crystal cell, and a plurality of dots constituting by small projecting portions or small recess portions for changing a moving direction of the light from the incident surface toward a direction of the light emitting surface, each of said dots having an area within a range of 0.01 to 0.0001 square mm and an angle of inclination of a cross section thereof is within a range of 7 to 43 degrees.

2. (amended) A liquid crystal display apparatus comprising:

a light conductor plate; ~~and~~

a light source arranged on a side surface of said light conductor plate~~, thereby lightening~~ so as to light a liquid crystal cell from a side of a back surface~~, wherein the~~; and

said light conductor plate ~~has~~ having an incident surface for a light from the light source, a light emitting surface for emitting the input light to the liquid crystal cell, and a plurality of dots constituting by small projecting portions or small recess portions for changing a moving direction of the light from the incident surface toward a direction of the light emitting surface provided on a surface opposite to the light emitting surface, each of said dots having an area within a range of 0.01 to 0.0001

square mm and an angle of inclination of a cross section thereof is within a range of 7 to 43 degrees.

3. (amended) A liquid crystal display apparatus comprising:

a light conductor plate; ~~and~~

a light source arranged on a side surface of said light conductor plate~~, thereby lightening~~ so as to light a liquid crystal cell from a side of a back surface~~, wherein the~~; and

said light conductor plate ~~has~~ having an incident surface for a light from the light source, a light emitting surface for emitting the input light to the liquid crystal cell, and a plurality of dots constituting by small projecting portions or small recess portions for changing a moving direction of the light from the incident surface toward a direction of the light emitting surface provided on the light emitting surface, each of said dots having an area within a range of 0.01 to 0.0001 square mm and an angle of inclination of a cross section thereof is within a range of 7 to 43 degrees.

Please cancel claims 4 and 5 without prejudice or disclaimer of the subject matter thereof.

Please amend claims 6-12 as follows:

6. (amended) A liquid crystal display apparatus as claimed in ~~any one of claims 1 to 5~~ claim 1, wherein a shape of each of said dots constituting by the small projecting portions or the small recess portions is a substantially rectangular shape, and a length of a short line thereof is equal to or less than 200 μm.

7. (amended) A liquid crystal display apparatus as claimed in ~~any one of claims 1 to 5~~ claim 1, wherein a shape of each of said dots constituting by the small

projecting portions or the small recess portions is a substantially rectangular shape, and a length of a short line thereof is between 10 and 100 μm.

8. (amended) A liquid crystal display apparatus as claimed in ~~any one of claims 1 to 7~~ claim 1, wherein a shape of each of said dots constituting by the small projecting portions or the small recess portions is a substantially rectangular shape, and a ratio between a short line and a long line thereof is equal to or less than 80.

9. (amended) A liquid crystal display apparatus as claimed in ~~any one of claims 1 to 7~~ claim 1, wherein a shape of each of said dots constituting by the small projecting portions or the small recess portions is a substantially rectangular shape, and a ratio between a short line and a long line thereof is equal to or less than 20.

10. (amended) A liquid crystal display apparatus as claimed ~~in any one of claims 1 to 9~~ claim 1, wherein a height or a depth of each of said dots constituting by the small projecting portions or the small recess portions is within a range between 2 and 100 μm.

11. (amended) A liquid crystal display apparatus as claimed in ~~any one of claims 1 to 9~~ claim 1, wherein a height or a depth of each of said dots constituting by the small projecting portions or the small recess portions is within a range between 5 and 40 μm.

12. (amended) A liquid crystal display apparatus as claimed in ~~any one of claims 1 to 11~~ claim 6, wherein a shape of each of said dots constituting by the small projecting portions or the small recess portions is a substantially rectangular shape, and a long line of the rectangular shape is arranged substantially in parallel to the light emitting surface of the light source.

Please cancel claims 13 and 14 without prejudice or disclaimer of the subject matter thereof.

Please amend claims 15-27 as follows:

15. (amended) A liquid crystal display apparatus as claimed in ~~any one of claims 1 to 14~~ claim 1, wherein a number per a unit area of the small projecting portions or the small recess portions in said light conductor plate is increased from a side of the light source toward an opposite side.

16. (amended) A liquid crystal display apparatus as claimed in ~~any one of claims 1 to 15~~ claim 1, wherein a reflecting film is formed on a surface forming the dots constituting by the small projecting portions or the small recess portions in said light conductor plate.

17. (amended) A liquid crystal display apparatus as claimed in ~~any one of claims 1 to 16~~ claim 1, wherein the small projecting portions or the small recess portions in said light conductor plate are arranged at random.

18. (amended) A liquid crystal display apparatus as claimed in ~~any one of claims 1 to 17~~ claim 1, wherein an angle of incline in cross section of the dots constituting by the small projecting portions or the small recess portions in said light conductor plate is changed from a portion near the light source toward a portion apart from the light source, and an angle thereof is substantially smaller at the portion near the light source.

19. (amended) A liquid crystal display apparatus as claimed in ~~any one of claims 1 to 18~~ claim 1, wherein an angle of incline in cross section of the dots

constituting by the small projecting portions or the small recess portions in said light conductor plate is changed from a portion near the light source toward a portion apart from the light source, an angle thereof is substantially smaller at the portion near the light source, and when sectioning the dot forming surface of the light conductor plate by a regular square of 1 to 4 square cm, an average of an angle of incline of a cross section within a regular square closest to the light source is 0 .5 to 15 degrees different from an average of an angle of incline of a cross section within a regular square most apart from the light source.

20. (amended) A liquid crystal display apparatus as claimed in ~~any one of claims 1 to 17~~ claim 1, wherein when sectioning the dot forming surface of said light conductor plate by a regular square of 1 to 4 square cm, an angle of incline of a cross section of the dots constituted by the small projecting portions or the small recess portions existing within said regular square is changed at every dots or every dot portions within one dot.

21. (amended) A liquid crystal display apparatus as claimed in ~~any one of claims 1 to 17~~ claim 1, wherein when sectioning the dot forming surface of said light conductor plate by a regular square of 1 to 4 square cm, an angle of incline of a cross section of the dots constituted by the small projecting portions or the small recess portions existing within said regular square is changed at every dots or every dot portions within one dot, within a range between averages ± 2 and 15 degrees within said regular square.

22. (amended) A liquid crystal display apparatus as claimed in ~~any one of claims 1 to 21~~ claim 1, wherein a width of the dots constituted by the small projecting portions or the small recess portions in said light conductor plate, that is, a length of the dots in a direction perpendicular to the light source is changed from a portion

near the light source toward a portion apart from the light source, and the width is substantially great in the portion near the light source.

23. (amended) A liquid crystal display apparatus as claimed in ~~any one of claims 1 to 22~~ claim 1, wherein an average distance between the dots constituted by the small projecting portions or the small recess portions in said light conductor plate, that is, a square root of a result obtained by a formula unit distance ± dot density is changed from a portion near the light source toward a portion apart from the light source, and the distance is substantially great in the portion near the light source.

24. (amended) A liquid crystal display apparatus as claimed in ~~any one of claims 1 to 23~~ claim 1, wherein a calculated average surface roughness Ra of portions other than a dot forming surface of the dots constituted by the small projecting portions or the small recess portions in said light conductor plate is set to be equal to or less than 0.3 μm.

25. (amended) A liquid crystal display apparatus as claimed in ~~any one of claims 1 to 23~~ claim 1, wherein a calculated average surface roughness Ra of portions other than a dot forming surface of the dots constituted by the small projecting portions or the small recess portions in said light conductor plate is set to be equal to or less than 0.05 μm.

26. (amended) A liquid crystal display apparatus as claimed in ~~any one of claims 1 to 25~~ claim 1, wherein a prism sheet having a relation of $90 < \theta p1 < 60$ degrees and $26 < \theta p2 < 55$ degrees is used in combination with said light conductor plate.

27. (amended) A liquid crystal display apparatus as claimed in ~~any one of claims 1 to 26~~ claim 1, wherein a thickness of said light conductor plate is different in accordance with a distance from the light source.

Please cancel claims 28-31 without prejudice or disclaimer of the subject matter thereof.